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CONTROL AND SHUTDOWN VALVES - MAINTENANCE & TROUBLESHOOTING

Start Date:	26/10/2026	**End Date:**	30/10/2026
Categories:	Engineering & Maintenan	**Venues:**	Barcelona
Formats:	In Person	**Instructors:**	

OVERVIEW

This technical course covers the operating principles, preventive maintenance, and failure diagnostics for control and shutdown valves. Participants will gain a solid foundation in valve actuation, positioners, leakage prevention, and emergency shutdown readiness.

OBJECTIVES

By the end of this course, participants will be able to: – Understand control valve types, characteristics, and applications. – Maintain and calibrate actuators, positioners, and trim components. – Troubleshoot control and ESD valve malfunctions. – Evaluate valve performance using test benches and diagnostics. – Apply maintenance best practices to prevent failure and ensure safety.

COURSE OUTLINE

1- Types of Control and Shutdown Valves 2- Valve Actuation Systems and Positioners 3- Maintenance Procedures and Calibration 4- Troubleshooting Techniques and Testing 5- Case-Based Diagnostics and Safety Compliance

TARGET AUDIENCE

All Supervisory Levels, Instrument technicians, maintenance engineers, process engineers, and shutdown coordinators in oil & gas and utilities.

METHODOLOGY

Field-based scenarios, calibration exercises, testing simulations, and team troubleshooting labs.

CONCLUSION

Participants will be able to maintain, inspect, and troubleshoot control and shutdown valves to ensure efficient operations and emergency readiness.

DAILY AGENDA

Day 1: Valve Fundamentals and Types

Classify valves by design and function, including globe, ball, butterfly, and shutdown valves.

Day 2: Actuators and Positioners

Understand pneumatic, hydraulic, and electric actuation and calibration of valve accessories.

Day 3: Maintenance and Servicing

Apply maintenance cycles, packing adjustments, and trim replacement techniques.

Day 4: Troubleshooting and Diagnostics

Analyze valve faults using test tools, assess loop performance, and correct alignment.

Day 5: Safety, ESD Function and Best Practices

Review emergency shutdown requirements, failure modes, and safety compliance measures.

For more information, please contact us:
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